REMARKS/ARGUMENTS

In the Office Action the Examiner rejected

(a) claims 1, 3, 4, 5, 16-19, 21-26, 32-46, 48-55, and 59-61 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one of ordinary skill in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention;

(b) claims 8, 13, 18, 23, 28, 36, and 56 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention;

(c) claims 21-61 (provisionally rejected) under the judicially created doctrine of obviousness-type double patenting over claims 1-11 of co-pending Application No. 11/253,322; over claims 1-30 of co-pending Application No. 10/629,368; and over claims 11, 14-27, 29-30, 34, and 36-37 of co-pending Application No. 11/070,768;

(d) claims 1, 3-5, and 16-19 under 35 U.S.C. §102(b) as being anticipated by 6,214,807 and its PCT equivalent (WO 00/078778);

(e) claims 1, 3-5, and 16-19 under 35 U.S.C. §102(b) as being anticipated by 4,968,697;

(f) claims 1-61 under 35 U.S.C. §102(e) as being anticipated by 6,403,567 and its PCT equivalent (WO 00/078779);

(g) claims 21, 25-27, 32-46, 48-55, and 59-61 under 35 U.S.C. §102(b) as being anticipated by Verani (U.S. Patent No.6,026,317);

(h) claims 1-61 under 35 U.S.C. §102(a) and/or (b) as being anticipated by Gao et al.; and

(i) claims 1-20 under 35 U.S.C. §103 as being obvious over any one of 6,214,807; WO 00/078778; 4,968,697; 6,403,567; WO 00/078779; 6,026,317; and Gao et al.; and

(j) claims 21-61 under 35 U.S.C. §103(a) as being obvious over 6,403,567.

The Abstract was also objected to.

REJECTION OF CLAIMS 1, 3, 4, 5, 16-19, 21-26, 32-46, 48-55, and 59-61 under 35 U.S.C. §112, first paragraph

The Examiner has rejected claims 1, 3, 4, 5, 16-19, 21-26, 32-46, 48-55, and 59-61 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one of ordinary skill in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The Examiner has stated that

> The definitions of active ingredients in claims 1, 3, 4, 5, 16-19, 21-26, 32-46, 48-55, and 59-61 are directed to a vast number of chemical compounds which have not been described in the instant disclosure in a manner permitting the ordinary practitioner to have the guidance necessary to make a very large proportion of the compounds encompassed.

The Examiner has further directed Applicants' attention to *In re Wands* [858 F.2d, 731,737; 8 USPQ 2d 1400, 1404 (Fed cir. 1988)].

Although not agreeing with the Examiner's rejection, in an effort to advance this application to allowance, Applicants have amended independent claims 1, 21, and 25, canceled independent claim 32, and added new independent claim 62, which are believed to render the issues raised by the Examiner moot. Applicants reserve the right to file continuing applications directed toward the canceled matter.

The Examiner objected to claim 44 on the basis of informalities. With the cancellation of claim 44, Applicants believe that the informality issue raised by the Examiner is moot.

REJECTION OF CLAIMS 8, 13, 18, 23, 28, 36, and 56 under 35 U.S.C. §112, second paragraph

The Examiner has rejected claims 8, 13, 18, 23, 28, 36, and 56 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner has pointed out the term "buffer" in claims 8, 13, and 18 "is directed to subject matter which is not provided in parent claim 4". Applicants believe that the current

amendments to the claims render the Examiner's rejection of the term "buffer" moot. Claims 8 and 13 depend ultimately off claim 1. In claim 1 buffer is listed as part of "at least one liquid carrier". Claim 18 has been canceled.

The Examiner has pointed out the term "iv bolus" in claim 23. Applicants believe that this rejection is moot given the above amendment to claim 23. Applicants have also amended claim 28 in a manner similar to claim 23.

Since claims 36 and 56 have been canceled, Applicants believe that the rejection of these claims is moot.

PROVISIONAL REJECTION OF CLAIMS 21-61 FOR NON-STATUTORY DOUBLE PATENTING

The Examiner has provisionally rejected claims 21-61 for non-statutory double patenting over claims 1-11 of co-pending Application No. 11/253,322; over claims 21-61 of co-pending Application No. 10/629,368; and over claims 11, 14-27, 29-30, 34, and 36-37 of co-pending Application No. 11/070,768.

REJECTION OF CLAIMS 1, 3-5, AND 16-19 under 35 U.S.C. §102 (b)

The Examiner has rejected claims 1, 3-5, and 16-19 under 35 U.S.C. §102(b) as being anticipated by 6,214,807 and its PCT equivalent (WO 00/078778). The Examiner stated that:

> Applicant is referred to claims 1 and 32-33 wherein adenosine agonists with A_{2A} receptor selectivity are disclosed as part of a pharmaceutical composition. The compound also known as CVT-3033 may be found at column 20, lines 40-50.

The Applicants respectfully draw the Examiner's attention to the quotation from 35 U.S.C. §102 provided in the subject Office Action. The definition for anticipation under 102 stated that "the invention" was described in an application or patent. To be anticipated, all of the subject matter of a claim must be clearly set forth in a single reference. Applicants draw the Examiner's attention to independent claims 1 and 62 (new) of the subject application as set forth above. In pending claims 1 and 62 of the subject application specific N-pyrazole and C-pyrazole adenosine molecules are set forth. In these pending claims liquid carriers and co-solvents are set forth. In addition, both claims 1 and 62 set forth the pH of the composition. Neither the '807 reference, nor its PCT equivalent, discusses N-pyrazole substituted adenosine compounds. In

addition, neither the '807 reference, nor its PCT equivalent discusses specific liquid carriers, specific co-solvents, or pH ranges for the composition. Applicants also respectfully point out that claims 3 and 4 have been canceled and that rejected claims 5 and 16-19 of the present application are dependent claims carrying the limitations of the independent claim from which they depend. For these reasons Applicants request that the Examiner reconsider the rejection of claims 1, 3-5, and 16-19 under 35 U.S.C. §102(b) as being anticipated by 6,214,807 and/or its PCT equivalent (WO 00/078778).

REJECTION OF CLAIMS 1, 3-5, AND 16-19 under 35 U.S.C. §102 (b)

The Examiner has rejected claims 1, 3-5, and 16-19 under 35 U.S.C. §102 (b) as being anticipated by 4,968,697. The Examiner stated that:

> Applicant is referred to claims 1 and 14 wherein the well known in the art A2A receptor agonist, CGS-21680, is disclosed as part of a pharmaceutical composition.

The Applicants respectfully draw the Examiner's attention to the quotation from 35 U.S.C. §102 provided in the subject Office Action. The definition for anticipation under 102 stated that "the invention" was described in an application or patent. To be anticipated, all of the subject matter of a claim must be clearly set forth in a single reference. Applicants draw the Examiner's attention to independent claims 1 and 62 (new) of the subject application as set forth above. In pending claims 1 and 62 of the subject application specific N-pyrazole and C-pyrazole adenosine molecules are set forth. In these pending claims liquid carriers and co-solvents are set forth. In addition, both claims 1 and 62 set forth the pH range of the composition. The '697 reference does not discuss either of the N-pyrazole or C-pyrazole substituted adenosine compounds in pending independent claims 1 and 62. Applicants also respectfully point out that claims 3 and 4 have been canceled and that rejected claims 5 and 16-19 of the present application are dependent claims carrying the limitations of the independent claim from which they depend. For these reasons Applicants request that the Examiner reconsider the rejection of claims 1, 3-5, and 16-19 under 35 U.S.C. §102(b) as being anticipated by 4,968,697.

REJECTION OF CLAIMS 1-61 under 35 U.S.C. §102 (e)

The Examiner has rejected claims 1-61 under 35 U.S.C. §102(e) as being anticipated by 6,403,567 and its PCT equivalent (WO 00/078779). The Examiner stated that:

> Applicant is referred to claims 1, 8, 10, and 11-13 wherein the compound, also known as CVT-3164 [sic], is disclosed as part of a pharmaceutical composition and as having utility in the imaging of mammalian cardiac circulatory systems. See also CV Therapeutics '770 (PTO-1449 ref. B2) which is the PCT equivalent to the '567 reference and also anticipates the instant noted claims for the same reasons.

The Applicants respectfully draw the Examiner's attention to the quotation from 35 U.S.C. §102 provided in the subject Office Action. The definition for anticipation under 102 stated that "the invention" was described in an application or patent. To be anticipated, all of the subject matter of a claim must be clearly set forth in a single reference. Applicants draw the Examiner's attention to pending independent claims 1 and 62. In amended claim 1 (and new claim 62) of the subject application specific N-pyrazole and C-pyrazole adenosine molecules are set forth. In these pending claims liquid carriers and co-solvents are set forth. In addition, both claims 1 and 62 set forth the pH of the composition. Neither the '567 reference, nor its PCT equivalent, discusses C-pyrazole substituted adenosine compounds. In addition, neither the '567 reference, nor its PCT equivalent discusses liquid carriers, co-solvents, or the pH range of the composition. Applicants also respectfully point out that rejected claims 5-8, 10-17, and 19-31 of the present application are dependent claims carrying the limitations of the independent claim from which they depend. For these reasons Applicant requests that the Examiner reconsider the rejection of claims 1-61 under 35 U.S.C. §102(e) as being anticipated by 6,403,567 and/or its PCT equivalent (WO 00/078779).

REJECTION OF CLAIMS 21, 25-27, 32-46, 48-55, and 59-61 under 35 U.S.C. §102 (b)

The Examiner has rejected claims 21, 25-27, 32-46, 48-55, and 59-61 under 35 U.S.C. §102(b) as being anticipated by Verani '317 (PTO-1449 ref. A11). The Examiner has pointed out column 2, lines 54-67 and the continuation into column 3, column 3, lines 43-67, the Examples at columns 5-10, and claims 1-3 and 15-23.

Applicants respectfully point out that '317 is directed to compound CGS-21680 and that claims 21, and 25-27 of the subject application do not include compound CGS-21680.

Applicants also respectfully point out that given the cancellation of claims 32-46, 48-55, and 59-61, the rejection of these claims is moot. For this reason, Applicants request the Examiner to reconsider the rejection of claims under 35 U.S.C. §102(b) as being anticipated by Verani '317 (PTO-1449 ref. A11).

REJECTION OF CLAIMS 1-61 under 35 U.S.C. §102 (a) and/or (b)

The Examiner has rejected claims 1-61 under 35 U.S.C. §102 (a) and/or (b) as being anticipated by Gao et al. (PTO-1449 ref. C2). The Examiner has pointed out the abstract "wherein both CVT-3033 and CVT-3164[sic] are disclosed as having the desirable properties of inducing short term coronary vasodilation during myocardial imaging in the presence of radionuclides."

Applicants respectfully direct the Examiner's attention to the fact that cancellation of claims 2-4, 9, 18, and 32-61 renders rejection of those claims moot.

Gao et al. does not provide "a method of producing coronary vasodilation without significant peripheral vasodilation comprising administering to a human the pharmaceutical composition of claims 1 or 5 or 62 wherein said composition contains about 10 to abut 600 micrograms of at least one A_{2A} receptor agonist" (as taught in amended claim 21 of the subject application.) Nor does Gao et al. provide "a method of myocardial perfusion imaging — comprising administering a radionuclide and the composition of claims 1 or 5 or 62" (as taught in amended claim 25 of the subject application.)

Gao et al. provides a pharmaceutical composition containing the drug and DMSO (see page 210 in the Material section). There is no discussion in Gao et al. of a pharmaceutical composition containing specific liquid carriers and specific co-solvents at specific pH ranges.

Applicants respectfully point out that claims 5-8, 10-17, 19-20, 22-24, and 26-31 are all dependent claims carrying the limitations of the independent claim from which they depend.

For the above reasons Applicants request the Examiner to reconsider the rejection of claims under 35 U.S.C. §102 (a) and/or (b) as being anticipated by Gao et al.

REJECTION OF CLAIMS 1-20 under 35 U.S.C. §103

The Examiner has rejected claims 1-20 under 35 U.S.C. §103 as being unpatentable over any one of Zablocki et al. '807 (PTO-1449 ref. A12); CV Therapeutics '778 (PTO-1449 ref. B3);

Hutchison '697 (PTO-1449 ref. A2); Zablocki et al. '567 (PTO-1449 ref. A13); CV Therapeutics '779 (PTO-1449 ref. B2); Verani '317 (PTO-1449 ref.A11); and Gao et al. (PTO-1449 ref C2). The Examiner further stated that

> The instant claims are directed to pharmaceutical compositions wherein the active ingredient is an adenosine A2A receptor agonist including the compound known as CVT-3164 [sic] and all equivalents thereof.

Applicant respectfully draws the Examiner's attention to the fact that for a document to render the subject claims obvious, there must have been some motivation to go from that document to the present claims and that the step from the document to the present claims must have been taken without undue experimentation.

As the Examiner is aware, to establish *prima facie* obviousness, two basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable likelihood of success in light of the prior art. *Brown & Williamson Tobacco Corp. v. Phillip Morris Inc.* 229 F.3d 1120, 56 USPQ2d 1456, 1459 (2000) citing *In re Dow Chem.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988). Furthermore, the teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant respectfully draws the Examiner's attention to each of '807; '778(the PCT equivalent of '807); '697; '567; '779 (the PCT equivalent of '567); '317; and Gao et al. These documents provide general discussion as to the pharmaceutical composition for the compounds taught; provide a list of methods for administration of the active compound; and provide no discussion regarding pharmaceutical compositions that provide product shelf life; A_{2A} receptor agonist solubility; composition pH; little vein irritation; little hemolysis; good storage conditions; and the ability to withstand sterilization (see page 13, line 11 through page 14, line 31 of the present specification).

Thus, '807; '778(the PCT equivalent of '807); '697; '567; '779 (the PCT equivalent of '567); '317; and Gao et al provide no motivation to move from it to the present invention. There is nothing in any one of '807; '778(the PCT equivalent of '807); '697; '567; '779 (the PCT

equivalent of '567); '317; and Gao et al to point a person skilled in the art directly, without undue experimentation, to a specific pharmaceutical composition.

The Examiner has also provided reference to 2 court decisions [*Ex Parte Billman*, 71 USPQ 253 (POBA 1946); and *In re Rosicky*, 125 USPQ 341 (CCPA 1960)], stating that

> "wherein it is stated that "[whether]...the effective ingredient... is carried by a solvent or a diluent does not change the effective character of the compound " (*Ex Parte Billman*); and
>
> "wherein it is stated that "A known compound in association with a carrier is not a patentable composition." (*In re Rosicky*).

Applicants respectfully direct the Examiner's attention to the above response to the outstanding Official Action. The claims pending as a result of this response do not claim "a known compound with a carrier". As pointed out in the specification (page 13, line 11 through page 14, line 31) the pH range of the present pharmaceutical compositions is chosen to provide product shelf life; A_{2A} receptor agonist solubility; little vein irritation; little hemolysis; good storage conditions; and the ability to withstand sterilization.

For the reasons set forth above, Applicants request the Examiner to reconsider the rejection of claims 1-20 under 35 U.S.C. §103.

REJECTION OF CLAIMS 21-61 under 35 U.S.C. §103 (a)

The Examiner has rejected claims 21-61 under 35 U.S.C. §103 (a) as being unpatentable over Zablocki et al. '567 (PTO-1449 ref. AB1). The Examiner stated that:

> Zablocki et al. '567 (PTO-1449 ref. AB1) discloses in claims 1, 8, 10, and 11-13 and in associated textual explanations that the compound, also known as CVT-3164 [sic], is part of a pharmaceutical composition and as having utility in the imaging of mammalian cardiac circulatory systems.
>
> Zablocki et al. '567 does not expressly disclose all of the specific details of the administration of pharmaceutical compositions containing CVT-3164 [sic] found in the instant claims.
>
> It would have been obvious to a person of ordinary skill in the art at the time the invention was made to conduct routine experimentation to determine the optimal conditions of administration of a CVT-3164 [sic]-containing compositions to produce the best possible radionuclide-based cardiac circulatory imaging.
>
> Therefore, the instant claimed method of inducing selective myocardial vasodilation for the purpose of enhancing the imaging of cardiac circulation

would have been obvious to one of ordinary skill in the art having the above cited reference before him at the time the invention was made.

Applicant respectfully draws the Examiner's attention to the fact 32-61 have been canceled from the application. The below discussion pertains to claims 21-24 (directed to a method of producing coronary vasodilation without significant peripheral vasodilation) and 25-31 (directed to a method of myocardial perfusion imaging comprising administering a radionuclide and the composition of claims 1 or 5 or 62).

Applicant respectfully draws the Examiner's attention to the fact that for a document to render the subject claims obvious, there must have been some motivation to go from that document to the present claims and that the step from the document to the present claims must have been taken without undue experimentation.

As the Examiner is aware, to establish *prima facie* obviousness, two basic criteria must be met. First, there must be some suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable likelihood of success in light of the prior art. *Brown & Williamson Tobacco Corp. v. Phillip Morris Inc.* 229 F.3d 1120, 56 USPQ2d 1456, 1459 (2000) citing *In re Dow Chem.*, 837 F.2d 469, 473, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988). Furthermore, the teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant respectfully draws the Examiner's attention to '567. This patent provides general discussion as to the pharmaceutical composition for the compounds taught; provides a laundry list of methods for administration of the active compound; and provides no discussion regarding the specific composition used in pending independent claims 21 and 25.

Thus, '567 provides no motivation to move from it to the present invention. There is nothing in '567 to point a person skilled in the art directly, without undue experimentation, to a specific pharmaceutical composition.

Applicants respectfully point out that given the general information in '567 a person skilled in the art would not be led from the general information in '567 to the specific pharmaceutical composition details of the subject application without undue experimentation. Applicant believes that there is no motivation to move from '567 to the subject invention.

For the above reasons, Applicants request that the Examiner reconsider his rejection of claims 21-61 under 35 U.S.C. §103 (a) as being unpatentable over Zablocki et al. '567 (PTO-1449 ref. AB1).

THE ABSTRACT OBJECTION

The Examiner has objected to the abstract as being "too brief because it fails to identify the particular active ingredient(s) required to carry out the instant claimed process."

Enclosed with this Response is a marked up Abstract. A clean copy of the amended Abstract is attached as Appendix A. Applicants believe that the amended Abstract overcomes the Examiner's rejection, and ask the Examiner to approve the amended Abstract.

GENERAL COMMENTS

The following claim amendments have been made:

Claim 1: The chemical name and structure have been added for CVT-3146 and CVT-3033. Support for the chemical name and structure for CVT-3146 can be found on page 22, starting on line 15. Support for the structure for CVT-3033 can be found on page 23, line 3. Support for the chemical name for CVT-3033 can be found on page 21, lines 21 and 22. Support for the list of liquid carriers is found in claim 3. Support for the list of co-solvents is found in claim 4. Support for the pH range is found in claim 9.

Claim 5: The dependency of this claim has been adjusted due to cancellation of claim 4.

Claim 8: The word "is" has been amended to "comprises" to better clarify the claim and its basis in claim 1.

Claim 10: The dependency of this claim has been adjusted due to cancellation of claim 9.

Claim 16: The dependency of this claim has been adjusted due to cancellation of claim 4. In addition the wording has been clarified with respect to propylene glycol.

Claim 19: The dependency of this claim has been adjusted due to cancellation of claim 18.

Claim 21: Support for "significant" can be found on page 11, lines 30-31 and page 41, line 25 through page 42, line 1. The claims from which this claim depends were adjusted to reflect new claim 62.

Claim 23: The word "iv" was spelled out as "intravenous (iv)".

Claim 25: The claims from which this claim depends were adjusted to reflect new claim 62.

Claim 28: The word "iv" was spelled out as "intravenous (iv)".

Claims 62 and 63 were added. Support for these claims is found in the same manner as for claim 1 above.

Conclusion

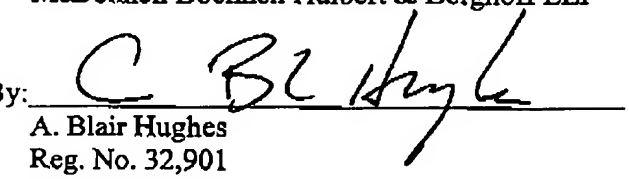
Applicants wish to point out that the cancellation of any subject matter in the claims pending as of this Office Action has been made without prejudice and without response to any arguments posed by the Examiner. Applicants reserve the right to prosecute any canceled subject matter in continuing applications.

Applicants submit that the claims are in condition for allowance. A Notice of Allowance is requested, and a prompt mailing thereof would be much appreciated. Should the Examiner have any questions, he is invited to contact the undersigned attorney at (312) 913-2123.

Respectfully submitted,

McDonnell Boehnen Hulbert & Berghoff LLP

Date: August 25, 2006

By: 

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APPENDIX A

Clean Copy of Abstract as amended herein